PROJECT DESCRIPTION

I. GENERAL

This project involves the reconstruction of the existing traffic control signal at the intersection of US 13 at Naylor Mill Rd. in Wicomico County, Maryland. US 13 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection currently operates in a NEMA six (6) phase, full-traffic-actuated mode. There is an exclusive left turn phase for both the north and southbound movements of US 13. The US 13 through movements operate concurrently. The Naylor Mill Rd. movements operate in a side street split mode. There is a firehouse pre-emption for both directions of US 13.

The intersection phasing is to be revised to accomodate an exclusive lead/lag left turn phase for both the north and southbound movements of US 13.

The existing cabinet and controller are to be utilized.

The existing 2-channel amplifiers are to be replaced with 4-channel rack mounted detection

III. PAVEMENT MARKINGS

Pavement marking symbols are to installed as part of this traffic signal project by the Traffic Signal Contractor. The pavemnent marking plan shall be utilized for specific locations of 'Arrow's and 'ONLY's. The striping of Naylor Mill Road shall be handled by MD-SHA.

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section		Description
1	EA	818		27 ft. steel twin mast arm pole with two 50 ft. mast arms (Note: 1-3/4 in. x 90 in. anchor bolts).
1	EA	818		27 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms (Note: 2 in. x 90 in. anchor bolts).
2	EA	818		10 ft. mini-mast arm with appropriate mounting hardware.
6	EA	814		12 in., one-way, three section (R,Y,G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	814		12 in., one-way, three section (RA,YA,GA) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814		12 in., one-way, four section (R,Y,G,GA) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
4	EA	813		30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
3	EA	813		30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
1	EA	---	★	4-channel rack mounted retro fit kit.
2	EA	---	★	4-channel rack mounted power supply.
5	EA	---	★	4-channel rack mounted amplifier.

★ To be installed by MD-SHA.

B. Equipment to be furnished and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
2	CY	205	Test pit excavation.
8	EA	811	Handhole.
920	LF	815	Sawcut for signal loop detector.
3825	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
7040	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
165	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
1190	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
580	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
270	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
70	LF	805	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
850	LF	805	3 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
35	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - trenched.
125	LF	805	4 in. polyvinyl chloride (Schedule 80) electrical conduit - bored.
7.3	CY	801	Concrete foundation for traffic signal equipment.
2	EA	804	Ground rod - ¾ in. diameter x 10 ft. length.
60	LF	550	24 in. wide HAPPTPM - white for stop line.
16	EA	550	HAPPTPM pavment marking symbol - 'Left Arrow'.
4	EA	550	HAPPTPM pavment marking symbol - 'Left-Thru Arrow'.
4	EA	550	HAPPTPM pavment marking symbol - 'Right Arrow'.
4	EA	550	HAPPTPM pavment marking symbol - 'ONLY'.
500	LF	---	3-M Opticom detector cable.
1	EA	---	Cut, clean, and cap mast arm pole.
2	EA	---	Loop detector splice.
5	EA	---	Relocate existing sign (use new hangar assembly).
2	EA	---	Relocate existing opticom detector eye.
1	EA	---	Relocate existing luminaire arm and luminaire.
Lump Sum	LS	---	Remove existing signal equipment.
Lump Sum	LS	---	Relocate existing interconnect cable.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

CONTACT LIST

The contact persons for District #1 are as follows:

Mr. Donnie Drewer
District Engineer
410-543-6715

Mr. Gene Cofiell
Assistant District Engineer - Traffic
410-543-6715

Mr. Bruce Poole
Assistant District Engineer - Utility
410-543-6715

Mr. James Wright
Assistant District Engineer - Maintenance
410-543-6715

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

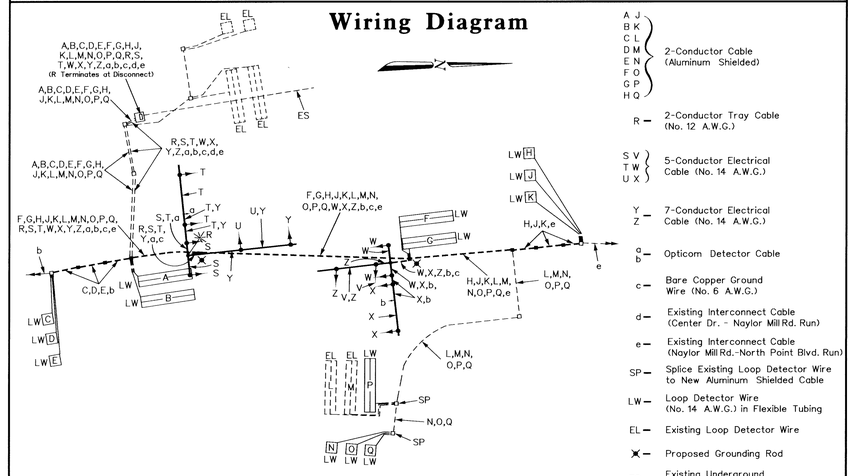
Phase Chart

	1	2	3	4	5	6	7	8	9	10	11	12	
Phase 1 & 5	→G—	→G—	G	G	→R—	→R—	R	R	R	R	R	R	
1 Change	→Y—	→Y—	G	G	→R—	→R—	R	R	R	R	R	R	
Phase 2 & 5	→R—	→R—	G	G	→R—	→R—	G	G	R	R	R	R	
5 Change	→R—	→R—	Y	Y	→R—	→R—	G	G	R	R	R	R	
Phase 2 & 6	→R—	→R—	R	R	→G—	→G—	G	G	R	R	R	R	
2 & 6 Change	→R—	→R—	R	R	→Y—	→Y—	Y	Y	R	R	R	R	
Phase 3	→R—	→R—	R	R	→R—	→R—	R	R	R	R	G →G—	G	
3 Change	→R—	→R—	R	R	→R—	→R—	R	R	R	R	Y	Y	
Phase 4	→R—	→R—	R	R	→R—	→R—	R	R	G →G—	G	R	R	
4 Change	→R—	→R—	R	R	→R—	→R—	R	R	Y	Y	R	R	
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

Pre-Emption Phase

Pre-Emp Phase 1	→G—	→G—	G	G	→R—	→R—	R	R	R	R	R	R	
1 Change	→Y—	→Y—	Y	Y	→R—	→R—	R	R	R	R	R	R	
Pre-Emp Phase 2	→R—	→R—	G	G	→R—	→R—	G	G	R	R	R	R	
2 Change	→R—	→R—	Y	Y	→R—	→R—	Y	Y	R	R	R	R	

Wiring Diagram



A J, B K, C L, D M, E N, F O, G P, H Q — 2-Conductor Cable (Aluminum Shielded)

R — 2-Conductor Tray Cable (No. 12 A.W.G.)

S V, T W, U X — 5-Conductor Electrical Cable (No. 14 A.W.G.)

Y, Z — 7-Conductor Electrical Cable (No. 14 A.W.G.)

a, b — Opticom Detector Cable

c — Bare Copper Ground Wire (No. 6 A.W.G.)

d — Existing Interconnect Cable (Center Dr. - Naylor Mill Rd. Run)

e — Existing Interconnect Cable (Naylor Mill Rd.-North Point Blvd. Run)

SP — Splice Existing Loop Detector Wire to New Aluminum Shielded Cable

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

EL — Existing Loop Detector Wire

— Proposed Grounding Rod

ES — Existing Underground Electrical Service

The Traffic Group

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SIGPLAN.DGN

MDOT – STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information)

US 13 at Naylor Mill Road

DATE: April 21, 1999 — LOG MILE • 22001312.65

DRAWN BY:	J. Storck	F.A.P. NO.	N/A	PLAN SHEET NO.:	SHEET NO.
CHK. BY:		S.H.A. NO.	BW996M82	1506F-G1	2 of 2
SCALE:	N/A	COUNTY:	WICOMICO		

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